
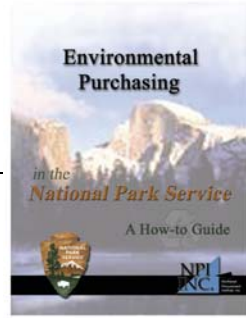






Pacific West Region's 100+ Best Management Practices

Defining What a Green Park Looks Like

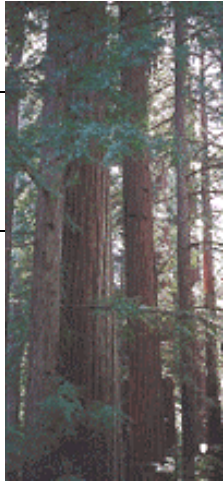


ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
GREEN PROCUREMENT (GENERAL)		
Resource Guide on EO 13101	Review the guide <i>Greening the Government Through Recycling, Waste Prevention, and Federal Acquisition</i> for an excellent overview of federal greening and green procurement.	
Before You Make a Purchase, Ask:	Is it really needed? Can the existing item be fixed? Can it be donated? Are renewable resources used in its production? Is it biodegradable? Biobased? Durable/reusable? Is it non-toxic? Does it have simple maintenance? Is it recyclable? Is it made from recycled content? Is it a CPG item?	Is the product produced and sold locally?
CPG – Comprehensive Procurement Guideline	Know the CPG* categories. When making a purchase, check to see if recycled content is available. Use RMAN (Recommended Materials Advisory Notice) for the % recovered content required. * federal purchasing requirements	Use values higher than RMAN.
FAR	Become familiar with FAR part 23 “Environmental Requirements.” Specifically, see part 23.4 “Use of Recovered Materials,” part 23.7 “Contracting for Environmentally Preferable and Energy-Efficient Products and Services,” part 23.8 “Ozone-Depleting Substances,” and 52.223-9 “Certification of Percentage of Recovered Material Content for EPA Designated Items Used in Performance of the Contract.”	
Contract Language	Incorporate environmental considerations into all aspects of solicitation package: construction waste recycling, sustainable products, and energy/water efficiency standards. Specify green products in specs. Require all bid documents to be printed on double-sided, recycled-content paper.	Set up local standards to meet your goals. Use electronic solicitation for bids.
Paper Purchasing (CPG Item)	30% PC content for printing and writing paper (mandatory).	100% PC content, processed chlorine-free (PCF).
Packaging (Styrofoam is under Waste Reduction)	Avoid products with excess or wasteful packaging. Is the packaging made of post-consumer (PC) recycled content? Is it recyclable? Reduced? DO NOT shrink wrap publications.	Is it reusable/refillable?
Computers and FAX/Printers	Must have Energy Star label. Purchase refurbished toner cartridges. Consider LCD monitors instead of CRT.	Consider less toxic materials/components, recycled content, and recyclability.
SUSTAINABLE DESIGN/SPECIFICATIONS		
Resources	Purchase the <i>Green Spec Binder</i> . Review the manual <i>Greening Federal Facilities</i> (May 2001), GSA Green Lease Standards, USPO green specifications, and Alameda County Waste Management Authority Green Building Guides.	Implement PWR Directive PW-048 <i>Sustainable Design and Construction Practices</i> .

(BMP) MORE ADVANCED	* REFERENCE	SUCCESS	✓ DATE
	EO 13101 <i>Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition</i> , 1998; <i>The Resources, Conservation and Recovery Act</i> , 1976. <i>Environmental Purchasing in the National Park Service: A How-to Guide</i> (final due 5/01/02). PWR Solid Waste Coordinator: sonya_capek@nps.gov http://www.ofee.gov	PW-051 <i>Environmentally Preferable Purchasing Policy</i> .	
Adapt a list of pre-purchase questions for your park.			
Go beyond recycled content as an environmental attribute. Other attributes may be more important (such as no VOC paint for interiors, or certified wood over plastic lumber).	40 CFR 247 Comprehensive Procurement Guideline for Products Containing Recovered Materials. http://www.epa.gov/cpg		
	http://www.arnet.gov/far/		
	PGSO Team Lead, Contracting: jamie_sherrill@nps.gov	PWR revised CSI guide specifications, created an environmental purchasing how-to guide, and developed pilot training <i>Environmental Contracting</i> , Seattle, 11/01.	
60-70% PC content (more sustainable on larger scale), PCF. Consider alternative fibers (i.e., non-wood) and water-based or vegetable-based ink.	1). Rolland New Life DP: 60% PC 2). Badger New Leaf: 100% PC 3). Eureka 100!: 100% PC Green Seal Report: <i>Printing and Writing Papers</i> , Nov. 1999.	CCSO, PGSO Rolland New Life DP paper. Contact Greg Barber: 800-840-4555 x113 FOVA kenaf paper.	
Let vendors know your packaging preference.			
	http://www.energystar.gov http://www.epa.gov/oppt/epp		
	EBN Archives: http://www.BuildingGreen.com http://165.83.71.10/maintenance/directives.htm http://www.greenspec.com http://hydra.gsa.gov/pbs/pe/green-lease.htm http://www.greenbuilder.com http://www.stopwaste.org/fsbuild.html	PW-048 <i>Sustainable Design and Construction Practices</i> .	


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Lifecycle Assessment	Include the cost of a product over its entire life, which includes the environmental impacts of its resource extraction, processing, manufacturing, use, disposal, and transportation.	
Job Site	Protect native vegetation during construction. Minimize runoff, use mulches, and minimize heat island effect. Build on previously disturbed sites only. Do not bury construction debris.	
Building Sizing	Design efficient floor plans. If wood, optimize dimensions to match standard lumber sizes. Design on 2' modules to reduce waste. Place window and door openings on framing module.	
Structural Systems and Framing	Less is more: use advanced framing (optimal value engineering, e.g., use 24" OC framing module, 2x sandwich headers instead of solid 4x or 6x beams, more insulation, and open corners and T-walls). Use shallow frost-protected footings. Use metal trusses, finger-jointed wood trusses, or I-joists for floors and roofs. Use engineered lumber products or steel for beams or headers. Use finger-jointed studs or engineered stud materials. Use recycled-content underlayment (50%), sheathing, or OSB. Use gypsum board made from recycled paper, or recycled cellulose fiber. Use structural insulated panel (SIP) walls or roof. Use insulated concrete form (ICF) walls or roof, or solid foam block system.	Utilize central cutting area to reduce waste and use smaller lengths. Install vapor-permeable house wrap. 
LEED -- Leadership in Energy and Environmental Design	See which LEED standards can be incorporated into design.	Silver or Gold LEED standard.
SUSTAINABLE BUILDING MATERIALS		
Product Selection	Buy locally produced materials (to save energy and reduce pollution in transportation). Choose products that are durable and can be reused or recycled. Avoid products with radon, molds, pesticides, HCFC foam insulation, and off-gassing. Choose materials that conserve resources (e.g., use by-products of other manufacturing processes; use smaller, faster-growing species of wood), and are energy efficient. Use salvaged timbers and decking. Use FSC certified wood.	
Low-Embodied Energy (Relative Energy Intensity of Materials by Weight)	Use products that last longer and require less maintenance. Consider low-embodied energy values: Lumber 1, brick 2, cement 2, glass 3, fiberglass 7, steel 8, plastic 30, aluminum 80.	Use concrete supplies that use soybean oil.
Composite/Plastic Lumber	Determine best product for application (e.g., docks, picnic tables, benches, boardwalks, decks, signs). Some options are Trex & ChoiceDek (wood fiber/plastic PET), Trimax (fiberglass/plastic PET), Durawood (plastic PET), Nexwood (some structural capability, plastic/rice hulls).	Consider certified wood products or reclaimed lumber over plastic lumber where appropriate (aesthetic/design concerns/structural needs). Keep informed about newer composites that have structural capability.
Certified Wood Products (CWP)	Specify CWP certified by the Forest Stewardship Council (FSC). Use FSC guidelines when selecting wood products. 	Choose products with binders that release little or no formaldehyde.
Engineered Wood Products	Choose gluelam, OSB, wood I-joists, laminated-veneer lumber, parallel strand lumber, and laminated strand lumber. Use OSB with lower formaldehyde adhesives to replace plywood for subfloors. Binders: urea releases the most formaldehyde; pheno is less and PMDI none, but PMDI is toxic at the point of manufacture. Particleboard: no more than 0.2 ppm formaldehyde, and plywood: no more than 0.3 ppm.	




(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
Use tools such as BEES or EPA databases to evaluate lifecycle costs.	Building Environmental and Economic Sustainability: http://www.bfrl.nist.gov/oae/software/bees.html	Parks' use of plastic lumber has required less long-term maintenance.	
Make efficient framing part of a waste management plan for large construction projects.	http://www.toolbase.org http://www.nahbrc.org/ http://www.buildinggreen.com	ROMO	
Platinum. DAB projects must be assessed using LEED criteria.	PW-048 <i>Sustainable Design and Construction Practices</i> . http://www.usgbc.org/	MORA Visitor Center. ZION Visitor Center (Silver).	
	EBN GreenSpec binder http://www.BuildingGreen.com http://athenaSMI.ca		
		ASIS, PRES, ROMO, YOSE, ZION	
	http://www.unitedsoybean.org		
	Durawood: http://www.eaglebrook.com/dw.html TREX: http://www.trex.com ChoiceDek: http://www.choicedek.com Trimax: http://www.trimax-products.com Nexwood: http://www.nexwood.com	EVER, FOVA, HALE, LAME, LARO, MORA, OLYM, REDW, WHMI, YELL	
	http://www.certifiedwood.org SmartWood: http://www.smartwood.com	NOCA-Hozomeen, PRES	
	Green Seal Report: <i>Particleboard and Medium-Density Fiberboard</i> , Oct. 2001.	PRES	


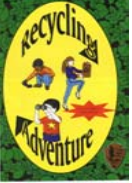
ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Old Growth Wood Products	DON'T USE. Do you really need clear, narrow-grained cedar or redwood siding? Use laminated wood timbers instead of old growth. Don't buy tropical hardwoods unless reliably documented that the wood is from well-managed forests.	Use reclaimed wood.
Pressure-Treated Wood	Don't use wood with hazardous chemicals (CCA, ACC, ACA, CZC, ACZA). Most pressure-treated woods are restricted by environmental concerns. Prevent soil contact and rot. Protect workers from handling, don't cut or clean over water, and NEVER burn scraps.	Use environmentally safer treatment (i.e., arsenic- and chromium-free, such as copper naphthenate or copper boron azole) or plastic lumber instead.
Paint (CPG Item)	1.) Latex – Exteriors: use recycled content. Minimum 20% PC content, low-VOC. 2.) Latex – Interiors: use no- or low-odor, non-toxic, low-VOC under 20 g/l. 3.) Oil-based: use ONLY where essential (e.g., ships). Keep looking for alternatives. Ventilate while painting and air out before occupying.	For recycled content, look for a higher PC content and the lowest VOC emission available. For latex, look for no VOC's. Use light colors indoors to reduce the amount of light that must be introduced into the space.
Exterior Wall Finish	Use locally produced block or brick. Use recycled-content fascia, soffit or trim, OSB, or w.p. gypsum board. Use engineered wood sub-fascia, soffit or trim, or OSB. Use recycled-content siding or fiber cement siding material.	
Doors and Windows	Use recycled-content doors with the least toxic binders. Use exterior doors insulated to min. R-2, windows with an NFRC rating of U-0.35 or lower, and windows with an NFRC Solar Heat Gain Coefficient of 0.45 or lower. Use exterior shading devices and interior window treatments.	
Roofing	Use with a minimum 20% recycled content and a minimum 30-year lifespan. Use roofing material weighing less than 350 lbs./100 sq. ft. to reduce roof mass. Use recyclable roofing materials (e.g., metal, or wood fiber and concrete, or plastic). Consider light colors.	Consider integration of roofing, roofing insulation, cooling load avoidance, and moisture-control detailing for all jobs. Specify non-halogenated and reflective roof membranes, recyclable roofing (e.g., PVC and TPO), and non-ozone-depleting roof insulation.
Insulation (CPG Item)	Use insulation with a minimum 20% recycled content. Consider cellulose insulation with UL-rated fire retardant. Use CFC- and HCFC-free rigid foam or spray plastic foam insulation.	Take CFC-based foam insulation to a recycler who can capture CFC's.
Cabinetry and Trim	Use no formaldehyde adhesives in cabinetry and trim. Make sure exposed particleboard containing formaldehyde is sealed with water-based blocking finish. Cabinet finishes should have 50 or fewer grams of VOC's per liter. Use finger-jointed or engineered wood trim. Any tropical hardwood trim or casework should be FSC.	Use alternative materials (e.g., biobased), recycled wood, medium density fiberboard, domestic wood.
Floor Coverings: Non-Carpet (CPG Item)	Use natural linoleum with low-toxic adhesive or backing, ceramic tile with low-toxic mastic and grout, rubber with high recycled content, finished concrete (colored, stained, textured, scored), or cork or FSC bamboo, depending on use level.	Use adhesives specifically formulated for each material.
Floor Coverings: Carpet (CPG Item)	Residential – Use recycled PET. Commercial – Use nylon face fiber with some PC content and reclaimed backing, or no backing (Mohawk), or refurbished (Milliken). Use carpet squares for some applications. Let carpet air out before and after installation. Use recycled-content carpet pad. Look for Carpet & Rug Institute's IAQ "Green Label." Regularly clean and maintain. Use mats at entrances.	Recycle existing carpet. Use binders and adhesives with no-/low-VOC emissions.

(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
		PRES	
	ACQ Preserve products: http://www.treatedwood.com/products/preserve/ http://www.kodiakwood.com http://www.healthybuilding.net/	PRES policy to ban use of CCA.	
	1.) GSA 1.) Kelly Moore E-Cote Paint: http://www.kellymoore.com 2.) AFM Safecoat: 800-239-0321 2.) Best Paint: 206-783-9938 See NPS <i>Environmentally Responsible (Green) Paint Options</i> , Oct. 2000. Green Seal Report: <i>Architectural Paints</i> , Dec. 1999. Green Seal provides green labeling standards for paints (GS-11) and anticorrosive paints (GS-03).	FOVA, NOCA, PRES, YOSE	
	http://www.energystar.gov		
Specify recycling of old roofing (e.g., Armstrong Tiles.) Integrate rainwater harvesting into roof design. Consider a green roof. Consider using the roof for photovoltaics.	"Low-Slope Roofing: Prospects Looking Up," <i>Environmental Building News</i> , Vol. 7, No. 10, November 1998. BuildingGreen, Inc.: 800-861-0954 http://www.BuildingGreen.com EnergyStar Roof Products Program: http://www.energystar.gov	CUCE Eco-Shake. 	
	Neil Kelly Signature Cabinets: http://www.neilkelly.com/cabinets http://www.unitedsoybean.org		
	http://www.ecotimber.com	JOTR TerraGreen tiles. PRES reclaimed wood, bamboo, finished concrete.	
Use a flooring material other than carpet! (e.g., linoleum, recycled-content rubber, and wood products).	See NPS <i>Environmentally Responsible Carpet Choices</i> , Oct. 2000. EPA <i>Greening Your Purchase of Carpet</i> , Dec. 2001. http://www.epa.gov/oppt/epp Green Seal Report: <i>Carpet</i> , Dec. 2001. http://www.carpet-rug.com	LARO, LAVO, NOCA, OLYM, PRES, USAR	




ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Finishes and Adhesives/Indoor Air Quality (IAQ)	Control moisture and leaks to avoid molds and mildew. Keep the building dry. Interior paints, finishes, sealants, and adhesives should contain no more than 20 grams per liter VOC. Use only low-toxic mastics, sealants, and petroleum solvent-free adhesives. Use adhesives and sealants with no formaldehyde or heavy metals. Use water-based urethane finishes on floors and water-based lacquer finishes on woodwork. Use carpeting and pad tacked or taped and not glued, or use water-based adhesives. Avoid VOC offgassing products such as particleboard, carpet, paint, and adhesives. If must use, air out before occupancy.	Reduce unplanned air flows. Provide exhaust ventilation for stationary pollution (copiers, printers, restrooms, etc.). Educate designers, builders, and building occupants. Use soy-based adhesives.
Furnishings	Use salvaged or reconditioned. If order new, choose high recycled content, no/low VOC's, and certified wood. Allow daylight to penetrate space. Modular units come in reclaimed units, composite woods, natural fibers, and low-VOC levels.	Choose those that have future adaptability.
WASTE REDUCTION: WASTE PREVENTION, RECYCLING, COMPOSTING		
Construction Waste Management/Plan and Job Site Recycling	First practice source reduction, then reuse on-site, reuse elsewhere, or sell for recycling. Sort and reuse, recycle, or sell materials of value including lumber/wood, drywall, metal, rubble, cardboard, fixtures, hardware, and wiring. Require drywall contractors to recycle waste. Test for lead and asbestos where needed. Don't reuse old fixtures, windows, toilets, etc. that are not energy efficient, unless there is historic value. Work with haulers to prevent contamination of waste sorting. Ensure no illegal dumping occurs off job site.	For larger projects, require a waste management or recycling plan; track quantities of recyclables. Make sure contract language addresses waste plan/recycling. Check on "take-back" policies (e.g., ceiling tiles, cardboard, carpet, drywall).
Deconstruction	Building materials are reduced, reused, and salvaged in that order. Don't salvage inefficient materials or components. Make sure reuse of vintage items represents an environmental gain.	Specify materials recovery (reuse and recycling of materials and components) in both building-removal bidding and in property-redevelopment process. See Construction Waste Management Plan above.
ISWAP-Integrated Solid Waste Alternatives Plan	Develop a written recycling plan for employees and visitors. Look at the <i>Servicewide Solid Waste Management Handbook</i> to see whether you need an ISWAP. Submit for funds under solid waste/hazmat budget call.	
Correspondence, Paper Use, File Management	Establish standards for double-sided printing and copying, paper and office supply reuse, electronic correspondence procedures, electronic file storage, elimination of colored paper, etc.	Incorporate source reduction into every practice. Eliminate reading and central files.
Computers and FAX/Printers	Donate old equipment to schools, senior centers, etc. Use plain paper fax machines (thermal may not be acceptable in recycling program).	
Waste Materials: General	Recycle cardboard, aluminum, scrap metal, glass, white paper, and no. 1 PET and 2 HDPE plastics. Monitor to prevent contamination (small amounts of one plastic can damage equipment used to recycle other plastics).	Add mixed paper, tin, other plastics (including film), and pallets, if local market permits. Find reuse opportunity or donate unwanted items.
Waste Materials: Beverage Containers	Check to see if your state has a mandatory deposit (get money back for returned empty containers).	Sell only beverage containers that can be recycled in park. Work with concessionaire.


(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
	http://www.ashrae.org http://www.smacna.org/iaq.cfm <i>Building Air Quality: A Guide for Building Owners and Facility Managers</i> , EPA/400/1-91/033, DHHS (NIOSH) pub. No. 91-114, EPA. http://www.epa.gov ASHRAE Standards 62-1989 and 55-94 for ventilation, T, and humidity. http://www.unitedsoybean.org		
	Ecowork by Studio eg: http://www.studioeg.com http://www.greenatworkmag.com		
	PWR Solid Waste Coordinator: sonya_capek@nps.gov		
Grind drywall (use as soil amendment), wood (chips for erosion control), concrete, and masonry on-site for reuse. Make efficient framing (OVE) part of a construction waste management plan.	http://www.metrokc.gov/procure/green/wastemgt.htm http://www.tjcoq.dst.nc.us/cdwaste.htm http://www.epa.gov/swerrims/ http://www.ciwmb.ca.gov http://www.stopwaste.org	MORA, PRES, ROMO, YOSE	
Provide a time benefit to offset time or cost penalty to deconstruct. Design for deconstruction: reuse, recycling, and reprocessing of components.	"Deconstruction: Back to the Future for Buildings?" <i>Environmental Building News</i> , Vol. 9, No. 5, May 2000. BuildingGreen: http://www.BuildingGreen.com Building Materials Inventory Form, NAHB Research Center: http://www.nahbrc.org Used Building Materials Assn.: http://www.ubma.org	PRES, ROMO, YOSE	
	<i>Servicewide Solid Waste Management Handbook</i> , 1996.	Intermountain Parks Pacific West Parks	
Paperless office practices.		<i>PWR Green Office Practices Guide</i> (in progress).	
Practice cradle-to-grave recycling to ensure toxic components are properly managed (see Reference).	Unicorp and DOI Memorandum of Understanding for Electronic Equipment Recycling.		
Look into cooperative waste disposal or recycling to increase volume and reduce costs/traffic. Investigate composting to increase diversion rate.		All PWR parks recycle at least one material. YELL cooperative county recycling.	

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Styrofoam/Food Serviceware	Eliminate use of styrofoam, unless recyclable. Use biodegradable Earthshell for utensils and biodegradable foam "peanuts." Some styrofoam can be taken in for reuse at Mailboxes.com, or similar mailbox service store.	
Green Hotel Standards	Develop waste reduction standards for hotels. Ensure that all lodges use water savings cards for sheets and towels. Choose non-rigid recycled-content or biodegradable food packaging.	Provide staff training.
Hand Dryers	Choose air dryers over paper towels.	Choose electronic controls for hand dryers.
"Special" Wastes Composting	Look for a place to recycle pallets, scrap metals, tires, etc. Establish simple green yard waste recycling. Provide small-scale worm bins for residential food waste. 	Investigate food composting with residents or concessionaire.
Trash and Recycling Containers	Purchase containers with recycled content. Place containers next to each other. Evaluate your signage; use graphics. Make sure containers fit environment (e.g., animal-proof, rust-proof/salt air -resistant/moisture resistant, and proper size).	Centralize containers (remove from individual sites). Determine if you need multi-lingual signs.
Education Programs	Develop a Junior Ranger program for recycling and habitat preservation. Include waste prevention messages in talks. Provide recycling messages in brochures, trail guides, maps, and posters. Use at waysides, campground display boards, and kiosks. For concessions, include waste reduction tips with hotel reservation forms. Use soy-based or water-based inks. Describe environmental successes on your home page.	Work with local businesses, schools, and community to prevent waste before it enters park, and to reduce litter.
LIGHTING AND ENERGY CONSERVATION		
Light Pollution Sources: NPS, Concession, Visitor, External	Develop plans to minimize or eliminate light pollution in the Statement of Park Management, the GMP, and RMP. Eliminate unnecessary lights. Carefully match outdoor lighting levels with application. Install motion sensors and other controls. Educate staff and visitors/partners to change practices causing light pollution. Sensitize them to the benefits of dark night skies. 	Enforce light limits. Use low-pressure sodium, low-voltage, or photovoltaic lights. Shield light sources with directional devices.
Building Siting	Orient buildings to use passive solar energy and natural ventilation. Use north wall design that minimizes heat loss.	Use LEED standards.
Building Design/Solar Energy	Use light-colored roofs and pavement to minimize heat island effect. Maximize insulation and minimize infiltration of building envelope. Use appropriate window glazing. Choose glazing with low solar heat gain in southern climates. Use wall shading. Seal and insulate ductwork. Incorporate natural cooling in design.	Use air movement techniques and desiccant dehumidification (latent heat removal is preferred). Use active solar system (e.g., water heating and photovoltaic power). When reroofing, switch to a protected-membrane system.


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	EPA <i>Greening Your Purchase of Food Serviceware</i> , Dec. 2001. http://www.epa.gov/oppt/epp http://www.earthshell.com http://www.mailbox.com	STLI concessions sort, clean, and recycle styrofoam.	
	Green Seal Report: <i>Rigid Quick Serve Food Packaging</i> , May-June 1999. The Chinnet Company: 800-244-6382 EarthShell Corp: 410-979-1300 http://www.earthshell.com Insulair Inc.: 415-989-2877 http://www.insulair.com http://www.greenhotels.com	GRTE, MORA, OLYM, YELL YOSE The Green Path.	
Investigate biosolid composting.	Earth Tub: http://www.gmt-organic.com http://www.cfe.cornell.edu/compost http://www.mastercomposter.com	LAME fish guts. LARO, NOCA, SAMO, WHIS, YELL cooperative county composting.	
Institute pack-in/pack-out trash policy.	McClintock: http://www.mcclintockmetal.com	CHOH totally waste-free. NOCA, OLYM	
		ASIS Jr. Ranger. CIRO Traveling Trunk. LAME community outreach. NOCA and OLYM children's recycling guides, and bulletin board weatherproof messages.	
	EO 13123 <i>Greening the Government Through Efficient Energy Management</i> , 1999. PWR Energy Coordinator: steve_butterworth@nps.gov		
Work with those who generate light pollution outside park boundaries to modify/re-engineer intrusive light sources. Help develop local ordinances to control intrusive light pollution impacting parks and visitors.	<i>Federal Lighting Guide</i> : http://www.eren.doe.gov/femp/resources.html Illuminating Engineering Society of North America: http://www.iesna.org	New Mexico Parks helped develop state regulations regarding dark night skies. PINN local light ordinance. SEKI, GRCA	
	FEMP training on passive solar design: 800-363-3732 Low-energy building design workshops: http://www.sbicouncil.org		
Heat and cool by non-fossil fuel sources (100% renewable power). Use photovoltaic or hydrogen-source fuel cells. Consider removing power lines and substations.	http://www.ornl.gov/roofs+walls http://www.energystar.gov http://ateam.lbl.gov/publications.html	CHIS, JOTR	

ACTIVITY	BEST MANAGEMENT PRACTICE	
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Daylighting	Use natural daylight strategies to reduce lighting energy use and cooling requirements. Use dimming electronic ballasts and control banks of luminaires along window walls that are separate from interior lights.	Bring daylight in high, bounce off surfaces, filter with vegetation and architectural components, and integrate with electric lighting and HVAC systems.
Fixtures: Lighting	Install high-efficiency EXIT signs (LED). Use high intensity discharge (HID) lamps and/or fluorescent lights (T-8's or T5's with electronic ballasts) in all fixtures used for more than 3 hours a day. Do not use CFL in outdoor cold areas. Install occupancy sensors. Promptly replace fluorescent lamps that strobe or have blackened ends. Buy low-mercury products. Always transport and store fluorescent lamps horizontally.	Lower the ratio to one watt/square foot or less in general office space. A combination of infrared and ultrasonic sensors may work best.
Fixtures: Heating and Cooling	Use ceiling fans. Set thermostats not to exceed 68° F, cooling not to exceed 86° F. Install programmable electronic thermostats and timers (e.g., bath fans).	Consider paddle fans in high ceilings.
Woodstoves and Fireplaces	Replace old stoves with new ones meeting EPA New Source Performance Standards (NSPS); must have catalytic converters.	
Electric Motors and Heating/Cooling Systems	Check loads, install electronic motor controls. Ensure HVAC systems are in "setback" mode during unoccupied periods. Check for moisture or indoor air quality problems. Install heat pumps, and heat recovery and tankless water heaters. Insulate hot water pipes to R-4 or better. Provide proper maintenance!	Downsize HVAC equipment as a result of reduced heating or cooling loads. Optimize for part-load conditions. Replace systems with photovoltaic-battery system. Ventilate according to ASHRAE Std. 62. Consider rooftop solar water-heating when re-roofing, and heat-recovery (e.g., ventilators) when rehabilitating. Replace with more efficient, ozone-safe systems.
Appliances	Reduce hot water T to 120° F (reducing below 120° F may allow bacteria to grow inside hot water tanks). Buy clothes washer with energy rating of 800 kWh/yr. max., and horizontal axis washing machines. Choose electronic ignition for gas dryer and range. Refrigerator with energy rating of 800 kWh/yr. max.	Minimize risk of combustion gas spillage by using sealed-combustion dishwashers with energy-saving cycle and energy rating of 620 kWh/yr. Replace conventional garbage disposals with pulpers.
Office Equipment	Must have Energy Star label. Laptops use less energy. Activate energy management features. Screen savers DO NOT save energy (need to auto-switch to sleep/hibernate mode or manually turn off). Turn-off equipment when not in use.	Ink-jet and bubble-jet printers use less energy than laser. Use direct computer faxing or e-mail (copiers use more energy than any other office equipment).
Financing	Inquire about Energy Savings Performance Contracts, Utility Incentive Programs, and Green Power Purchasing.	
Education on Simple Practices	Educate employees on turning off lights; closing windows and doors; weather stripping; turning off computers, etc.; washing and drying full loads of laundry; and using soaps that perform at lower T.	Assess employee transportation patterns; invite carpooling.





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Assess light pipes, light shelves, fiber optics, tracking daylight apertures, and other advanced techniques.	http://www.nrel.gov/buildings_thermal http://www.daylighting.org http://www.pge.com/pec/daylight		
Upgrade lighting system when HVAC is upgraded.	Green Seal Report: <i>Compact Fluorescent Lighting</i> , Nov.-Dec. 1998. Green Seal Report: <i>Occupancy Sensors</i> , Feb. 1997. http://www.eren.doe.gov/femp/greenfed/index.html http://www.eren.doe.gov/EE/buildings.html http://www.iesna.org http://www.lrc.rpi.edu		
	EO 12902 <i>Energy Efficiency and Water Conservation at Federal Facilities</i> , 1994. Green Seal Report: <i>Room Air Conditioning</i> , Summer 1999.		
		YOSE	
Consider air over evaporative water tower cooling systems for air conditioning systems. Use recycling systems if cooling towers used. Replace systems with fuel cell or biomass-fired (boilers). Use ground source heating systems.	http://www.eren.doe.gov/femp/techassist/renewenergy.html http://www.esource.com http://www.ashrae.org FEMP Trained Energy Manager Course: 800-363-3732	JOTR Cottonwood. ZION visitor center.	
	http://www.energystar.gov http://www.eren.doe.gov/EE/buildings.html FEMP Help Desk: 800-363-3732		
	EPA <i>Greening Your Purchase of Electronics</i> , Dec. 2001, and EPA <i>Greening Your Purchase of Copiers</i> , Dec. 2001. http://www.epa.gov/oppt/epp http://www.energystar.gov		
	Check with: steve_butterworth@nps.gov / http://www.eren.doe.gov/femp/	JOTR	
		LAME	


ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
EQUIPMENT AND GENERATOR USE		
Noise Sources: NPS/Concessions -Maintenance equipment & practices -Leaf blowers, hedge trimmers, weed whackers -Lawnmowers -Chainsaws, etc. -Vehicles (cars, trucks, buses, snowmobiles, aircraft, watercraft, motorcycles) -Air conditioners, heaters -Loudspeakers (music or voice) -Sirens -Generators	Minimize noise. Turn off motors when not using; no idling. Shield sources with noise attenuation devices. Review maintenance plans. <div>4-stroke engine</div> 	Assess practices, equipment, and times and seasons of use to see where noise can be eliminated. Educate park staff/concessionaires to change behavior or practices causing noise. Sensitize them to natural sounds.
Noise Sources: Visitor -Vehicles -Generators -Boom boxes -Loud voices, etc.	Educate visitors to change behavior and/or practices causing noise. Sensitize them to natural sounds.	Move noise generation or affected resources/people geographically.
Noise Sources: External Operations -Aircraft overflights -Traffic -Other urban noises -Mining/landfill operations -Land development	Educate external partners to change their behavior and/or practices causing noise.	Work with those who generate noise to modify or re-engineer the intrusive noise source to reduce decibel levels and impacts on park resources and visitors.
Gardening Equipment	Convert gasoline-powered lawnmowers, hedge trimmers, leaf blowers, weed whackers, etc., to electric. Use push mowers and hand tools on small projects. Convert 2-stroke riding lawnmowers to 4-stroke.	Use biobased lubricants and fluids.
WATER QUALITY AND CONSERVATION		
General	Conduct a water audit. Educate employees on simple water-conserving practices. Set up a leak reporting system. Wash vehicles at commercial location; if can't, set up recycling wash stations in park.	



(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
	PWR Air/Noise Coordinator: judy_roccio@nps.gov		
Develop plans to minimize or eliminate noise generation in the Statement of Park Management, and in the GMP and RMP. Generate permit requirements to prevent/limit/regulate noise-generating activities under 36CFR1.6.	DO-47 <i>Soundscape Preservation and Noise Management</i> . 36CFR 1.6 "Regulation on Permit Requirements" 36CFR Ch.1, Sec. 2.5.1 "Snowmobiles" 36CFR Ch.1, Sec. 3.7 "Boats" Green Seal Report: <i>Lawn Care Equipment</i> , June-July 1998.	JOTR Cottonwood generator. LAME quiet planes. YELL snowmobiles. YOSE	
Enforce noise limits of 36CFR2.12 or other relevant NPS noise regulations. Generate closures under 36CFR1.5.	DO-47 <i>Soundscape Preservation and Noise Management</i> 36CFR Ch.1, Sec. 2.12 "Audio disturbances" 36CFR Ch.1, Sec. 2.5.1 "Snowmobiles" 36CFR Ch.1, Sec.3.7 "Boats" 36CFR 1.5 "Closures and public use limits"	ZION reduced visitor vehicle traffic by providing propane-powered shuttle buses.	
Help to develop local ordinances to control intrusive noise generation impacting parks.	DO-47 <i>Soundscape Preservation and Noise Management</i> Check local noise ordinances.	GRCA Aircraft Overflights Rule. Rocky Mountain NP Air Tour Overflights Ban.	
Design and maintain natural plantings/vegetation that does not need pruning, etc.	California Air Resources Board: http://www.arb.ca.gov http://www.unitedsoybean.org http://www.terresolve.com http://www.greenpluslubes.com	OLYM banned leaf blowers and uses rakes and brooms instead. PWR policy/parks converting 2-stroke to 4-stroke.	
	PWR Water Conservation Coordinator: steve_butterworth@nps.gov PWR HazMat Coordinator: steve_mitchell@nps.gov		
	http://www.epa.gov/region9/water/recycling/index.html http://www.waterwiser.org http://www.epa.gov/OWM/genwave.htm FEMP Water Management Training Course: 800-363-3732		

Grounds Maintenance (see also Grounds and Landscaping)	Use alternative turf lawns and native plantings. Grasscycle (leave mowed clippings in place to fertilize). Don't water during the hottest time of day. Don't use fine spray sprinklers.	Mow less grass. Maximize permeability of surfaces to allow site to absorb water. Use rain catchment techniques.	Xeriscape: install plants that require no irrigation other than that which occurs naturally.		FOVA, PRES	
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ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Plumbing/Fixtures	Maximum flow rates: 1.6 gal flush for toilets, 2.5 gal/minute for lavatories and showers. Buy water-conserving showerheads (1-2.5 gpm), faucets, faucet aerators, toilets, and urinals. Insulate piping. Fix leaks! Adjust the flush valves in gravity toilets and install refill diverters. Use dual-flush adapters. Choose waterless urinals, but first check sewer system flow needs.	Install individual facility water meters. Install electronic controls for faucets, toilets, and urinals. Choose self-contained drinking fountains and adjust the temperature to 70° F vs. 65° F. Consider composting toilets.
Point Source Wastewater	Inventory maintenance wastewater sources and discharge routes. Practice good housekeeping! Use non-chlorinated chemicals, bleach-free, non-phosphate, non-toxic, and biodegradable dishwashing and laundry detergent and cleaners. Never discharge unknown liquids down the drain (e.g., low/high pH, oily and solvent wastes, fuels, antifreeze). Plug floor drains. Label all storm drains and catch basins. Check state requirements.	Clean vehicles and equipment off-site where appropriate. If on-site, pre wipe components, use closed-loop systems. Re-circulate vehicle wash systems.
Non-Point Wastewater	<i>Prevent</i> pollution and use green products. Keep storm drains clean. Clean up spills but do not hose into streets. Dispose of pesticides and tank rinsate properly. Check state and local requirements.	Use watershed approach: EPA Index of Watershed Indicators to rate water quality.
Storm and Groundwater Management	Lay out surface parking lots to allow for sheet-like drainage to infiltration and bioremediation strips/swales. Minimize changes to topography. Provide warning labels on drains and catch basins. Maintain and clean grease traps and oil and water separators.	Use bioengineering for treatment of runoff and sediment control. Comply with National Pollutant Discharge Elimination System.
GROUPS AND LANDSCAPING		
Groundcovers and Plantings (Mulch is CPG Item)	Choose a groundcover/grass that uses less water and mowing. Grasscycle (leave clippings in place). Use less fertilizer and pesticide. Use non-toxic termite treatments. Plant trees on east and west sides of building to reduce cooling loads. Hedgerows, windrows, and shrubbery can block winter winds, channel cool summer breezes into buildings, and lessen microclimatic impact of solar radiation absorption of dark surfaces. Use mulches and drip irrigation.	Xeriscape: use plants that require only natural irrigation; use native plantings. Compost green waste. Use organic fertilizers. Use integrated pest management (IPM) techniques.
Landscaping	Use permeable paving materials and permeable vegetated materials for roads and walks, curbless design, and porous gutters. Drain surface runoff into soil.	
Materials (CPG Items)	Use hoses, mulch, edging, timbers, posts, and compost with recycled content.	
HAZARDOUS WASTE/POLLUTION PREVENTION		
Ozone-Depleting Substances (ODS) and PCB's	Minimize use of products that use CFC's and HCFC's as blowing agents, and HVAC systems that use CFC's and HCFC's as heat transfer agents. Check with state on ODS requirements.	Ensure appropriate handling, servicing, and tracking of equipment containing such substances. Look for non-halon fire suppression systems.

(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
	EO 12902 <i>Energy Efficiency and Water Conservation at Federal Facilities</i> , 1994. DOI Buildings/Facilities Energy Management and Water Conservation Plan. Waterless Company: http://www.waterless.com http://www.compostingtoilet.com http://www.falconwaterfree.com	CHIS, JOTR, MACA waterless urinals. KAHO, REDW, YOSE composting toilets. SEKI low-flow toilets.	
Where legal, separate and reuse graywater (water from bath sinks, showers, tubs, and laundry) for irrigation. Make sure filters are cleaned and system properly maintained. Harvest rainwater for irrigation but do not connect roof drains, downspouts, or patio runoff to graywater system. Collect roof runoff for other uses. Treat blackwater with on-site system.	National Pollution Discharge Elimination System (NPDES) permitting program. http://www.dwr.water.ca.gov	HALE wastewater reuse for non-potable toilet flushing. HALE wetlands treatment.	
	<i>Clean Water Act</i> , Section 319. http://www.epa.gov/iwi/ http://www.epa.gov/owow/nps http://cfpub1.epa.gov/npdes/ http://www.epa.gov/owm/sw/phase2		
Conduct a stormwater analysis/plan and quantify pollutants. Consider green (vegetated) roofs. 			
	Executive Memorandum: "Environmentally and Economically Beneficial Practices on Federal Landscaped Ground," 1994.		
Conduct water audits. Make all surfaces permeable for rainwater absorption. Restore habitat on site.	http://www.asla.org Contact your local Agricultural Extension Office. Contact your IPM Coordinator.		
	http://www.forester.net/sw_0203_green.html	ASIS crushed shell parking surface. JOTR trail soil stabilizer.	
	http://www.epa.gov/cpg	PRES	
	PWR HazMat Coordinator: steve_mitchell@nps.gov Regional Model P2 Plan.		
Verify contractors' and concessions' appropriate management. Develop capital equipment plans to eliminate ODS.	EO 12843 <i>Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances</i> , 1993. http://www.ari.org		




ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Oil and Coolant (see also Vehicles)	Use laundering service for oil rags. Use plastic spill containment pallets for storage of oil product containers. Use buckets at diesel receiving station to prevent drips and leaks during unloading from fuel trucks. Properly label and store. Never label as "waste oil" unless contaminated. Recycle all used oil. Check state requirements.	
Solvents (see also Air Quality)	Avoid solvent-based finishes, adhesives, particleboard, carpet, and other VOC-releasing products. Seek out non-toxic, water-based products (e.g., non-solvent, citric-based products). DO NOT use halogenated solvents. Characterize spent solvents and wastewater. Provide proper storage, labeling, and containers. Check state requirements.	Practice source reduction first! Reduce, reuse, recycle, substitute, or eliminate solvent use. Provide add-on controls such as ventilation, covers, and refrigeration freeboard coils to existing vapor degreasers.
Paints	Store paints and solvents in airtight containers. Use paintbrushes rather than sprayers. Do not buy aerosol paints. Do not use oil-based paint unless essential (e.g., some boats). Characterize paint waste before disposal. Buy only what is needed, but recycle leftover paint.	Lighter-colored paints tend to have lower VOC content.
Fluorescent/HID Bulbs and PCB Ballasts	Manage all mercury-containing lamps as universal waste. Mail in pre-purchased packages for recycling.	Use lights with lower levels of mercury and which are non-hazardous (T8 or T5).
Batteries	Manage Ni-Cads and small, sealed lead-acid as universal waste. Dispose alkaline in ones and twos in the trash. Store in dry, moderate temperature. Do not stockpile. Switch off battery-powered equipment when not in use. Determine state and local regulatory requirements.	Recycle all battery types. Use rechargeable batteries, preferably solar powered.
Disposal	Find ways to reduce your use of hazardous materials. Do not mix hazardous waste with used oil. Seek out recycling over disposal.	
VEHICLE USE AND ROADS		
Park and Concessionaire Employee Vehicle Use	Reduce vehicle miles traveled (VMT) by encouraging carpooling, walking, or bicycling. Promote telecommuting. Match vehicle <i>size</i> to needs and use (e.g., do you really need an SUV?) Convert 2-stroke to 4-stroke engines for boats and snowmobiles.	Purchase alternative-fueled (natural gas, propane), electric, or hybrid vehicles, or vehicles with the best fuel economy.
Visitor and Tour Operator Vehicle Use	Reduce vehicle miles traveled (VMT) by encouraging carpooling, walking, or bicycling. Investigate and encourage the use of alternative-fueled vehicles for tour operators.	Provide shuttle buses. Provide incentives for use of alternative-fueled vehicles, like reduced entrance fees.
Off-Road Vehicle Use	Reduce particulate matter using dust control (e.g., water) and speed limits.	When purchasing new, buy low emission equipment. Use biobased and synthetic lubricants.
Roads and Paving	Designs should maximize permeable area and minimize runoff. Reuse on-site materials. Use pervious paving. Use low VOC, water-based road striping paint. 	Pulverize existing pavement for aggregate base, cold in-place recycling of existing pavement, use hot mix asphalt with recycled content (asphalt, glass, rubber tires). Specify road base aggregate from recycled concrete, asphalt, and brick.
Retread Tires (CPG Item)	Purchase retreads on park-owned vehicles. When leasing a vehicle, work with GSA to get retreads.	
Fleet Maintenance	Keep vehicles in top mechanical condition: rotate tires every 5000-miles; check tire pressure; don't top off tank; get regular checkups.	

(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
		YOSE	
.			
	Ballast disposal info.: http://www.energystar.gov Association Of Lighting and Mercury Recyclers: 707-942-2197	REDW	
	Radio Shack, Wal-Mart, Target, etc., take batteries. Rechargeable Battery Recycling Corporation: 800-822-8837 http://www.rbcc.org/ (recycle Ni-Cads) http://www.epa.gov/epaoswer/osw/non-hw.htm#battery	REDW	
	EO 13149 <i>Greening the Government Through Federal Fleet and Transportation Efficiency</i> , April 21, 2000.		
Convert 75% of fleet to alternative-fueled vehicles (AFV).	EO 12844 <i>Federal Use of Alternative Fueled Vehicles</i> , 1993. EO 13031 <i>Federal Alternative Fueled Vehicle Leadership</i> , 1996.	GOGA, YELL	
Work with local transit to provide regional transit alternatives to the park, and provide park shuttle buses.	Transportation & Sustainable Communities: http://scitech.dot.gov/partech/sustran/sustran.html	GRCA, YOSE, ZION	
Replace 2-stroke engines with 4-stroke.			
	http://www.arra.org/ http://www.forester.net/sw_0203_green.html http://www.pca.state.mn.us/waste/listedmetals.html http://www.ennispaint.com	ASIS indigenous road/parking (shells). MORA, YELL	
		CACO	

ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Antifreeze/Coolant (CPG Item)	Use reclaimed (recycled) engine coolant and recycle used coolant. Determine state hazardous waste requirements. Switch to polyethylene glycol but evaluate hazardous waste characteristics. See if available reclaimed.	Explore potential for recycling on-site.
Engine Oil (CPG Item) (see also Hazardous Waste)	Use re-refined oil with a minimum 20% PC content. Recycle used oil.	Look for oil with 100% non-virgin stock. Consider soy-based motor oil.
Biodiesel	Use B20 (80-20%) biodiesel in diesel fuel applications.	Use B50 (50%) biodiesel.
Biobased Lubricants and Greases	Use biobased (vegetable oil) lubricants and greases (hydraulic fluid, total loss, metalworking, crankcase oil, etc.) Use canola or soy oil-based bar-lube for chainsaws. Recycle used oil.	Use biobased without added petroleum synthetics.
JANITORIAL PRACTICES		
Inventory and Substitution	Conduct an inventory and review of all cleaning supplies. Substitute non-toxic products for undesirable (hazardous/toxic) products. Select from PWR <i>Green Janitorial Products and Practices Guide</i> , 10/01. Some products available from JWOD.	Eliminate use of hazardous chemicals. Purchase water-based cleaners.
Paper Products (CPG Item)	Buy unbleached toilet paper and paper towels with PC recycled content.	Buy chlorine-free or unbleached products.
Plastic Bags (CPG Item)	Purchase bags with recycled content.	Purchase bags with 100% recycled content.
BURN ACTIVITIES (AIR QUALITY)		
Prescribed Burning	Notify public to reduce human exposure.	Notify public and limit amount of fuel consumed.
Campfires	Prohibit collection of wood in the park and provide clean, dry wood through concessions.	Limit number of campfires per campground and/or designate campfire-free campgrounds.
ADMINISTRATION AND OPERATIONS		
Concessions Contracts	Include waste, water, and energy reduction in contract performance evaluation.	Concessionaires must develop EMP's for new contracts.
Employee Performance Standards	Establish a sustainability, energy, or recycling coordinator. Identify and include employee environmental standards in biannual performance appraisals.	Do the same for the Superintendent. Add environmental or sustainability language into park GPRA goals.
Meetings and Employee Functions	Establish guidelines for waste minimization: use durable utensils and mugs, buy in bulk, use items with reduced packaging, and provide recycling receptacles.	Provide in-house education, e.g., brown bag lunches on environmental topics.

(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
	Sierra: http://www.sierraantifreeze.com http://www.siri.org National Automotive Repair Compliance Assistance Center: http://www.ccar-greenlink.org	REDW Sierra.	
Test motor oil before changing to determine if service is required. Do not use oil additives. Use oil filter "extenders." Hot drain used filters.	Safety Kleen: 800-345-6333 Defense Logistics: http://www.dscr.dla.mil/products/pol/polcat.htm http://www.unitedsoybean.org		
Use B100 (100%) biodiesel.	http://www.biodiesel.org/fleets/default.asp	CHIS, HAVO, MORA, YOSE	
	EO 13134 <i>Developing and Promoting Biobased Products and Bioenergy</i> , August 12, 1999. GreenPlus: 888-682-6040 http://www.usda.gov/energyandenvironment/environmentally.html http://www.carbohydrateeconomy.org http://www.unitedsoybean.org http://www.terresolve.com http://www.greenpluslubes.com	CHIS, GOGA, MORA, OLYM, YOSE	
Evaluate cleaning practices to use less product, and use antibacterial or disinfectant only where necessary.	PWR <i>Green Janitorial Products and Practices Guide</i> , 10/01. EPA <i>Greening Your Purchase of Cleaning Products</i> . Dec. 2001. http://www.epa.gov/oppt/epp Green Seal Report: <i>Industrial and Institutional Cleaners</i> , Sept.-Oct. 1999. http://www.unitedsoybean.org http://pub.fss.gsa.gov/enviro/clean-prod-catalog.cfm http://www.westp2net.org/Janitorial/jp4.htm	CACO, FOVA, REDW, YELL 	
	Green Seal Report: <i>Paper Towels</i> , Feb. 1998. GSA Advantage: http://www.gsaadvantage.gov		
Purchase biodegradable cornstarch bags.	Envision 100% recycled, 30% PC. NIB: 800-433-2304) Cornstarch bags, reSource. http://www.BiocorpUSA.com http://www.gsaadvantage.gov		
	PWR Air Quality Coordinator: judy_rocchio@nps.gov		
Evaluate preventative fuel removal methods and choose the one with the least environmental impact.	Title 17 <i>California Smoke Management Plan</i> : http://www.arb.ca.gov	YOSE	
Restrict campfires when air quality conditions are bad.	Park Resource Management Plan, "Air Resources" section.	YOSE	
	Environmental Programs Manager, NPS Concessions: wendy_berhman@nps.gov	ACAD, CRLA, YOSE	
	EPA <i>Greening Your Meetings and Conferences</i> , Dec. 2001. http://www.epa.gov/oppt/epp		

ACTIVITY	BEST MANAGEMENT PRACTICE	
	SIMPLE	ADVANCED
Employee and Park Recognition	Recognize employees for initiative, creativity, and achievement in sustainable practices. Encourage suggestions on how to institute new ideas.	Prepare nominations for the NPS and DOI Environmental Achievement Award, DOE awards, and the White House Closing the Circle Award.
Training	Include information on park sustainability, green procurement, energy conservation, and recycling policy in new employee orientations.	Incorporate into all training opportunities.
General Planning Documents	Incorporate greening strategies into GMP's, DCP's, EA's, etc. Include community neighbors in regional planning.	Look at transportation issues.
Environmental Plans	Assess the need for these plans, surveys, or inventories: <ol style="list-style-type: none"> Air Emissions Inventory Pollution Prevention Plan Hazardous Waste Analysis HAZCOM Plan PCB Inventory ODS Inventory Asbestos Operations/Plan Radon Survey Emergency Response SPCC Plan Solid Waste (ISWAP) Alternative Energy 	Develop an Environmental Management System plan (EMS).
Project Review	Add an environmental or sustainability component on the same level as 106, disabled accessibility, and NEPA.	
Funding Sources	Learn about potential funding sources under DOE, NPS solid/hazmat program, EPA, state grants, etc.	
Permits for Group Events	Incorporate waste reduction or litter message.	Require clean-up fees to be returned if area left clean.
Education:		
Event Celebration	Plan activities for environmental events: Earth Day (April 22), America Recycles Day (November 15).	
News Sharing	Contribute to the PWR <i>Green Voice</i> newsletter produced by JOTR, and the Servicewide newsletter, <i>Sustainability News</i> .	Contribute to external publications. Present innovative park projects at conferences. Use PCF, and soy- or water-based ink.
Park Web Page, Park Brochure, and Newsletter	Add information about what and where to recycle, and any successes in sustainable projects. Print on recycled-content paper.	
Park and Individual Responsibility	Develop your own park BMP list and environmental leadership goals. Become a CEI park (Center of Innovation). Practice environmental stewardship at home. Teach your kids.	Let your kids teach you. Seek out training opportunities.

(BMP) MORE ADVANCED	REFERENCE	SUCCESS	✓ DATE
	Closing the Circle Award: http://www.ofee.gov	CHIS, GWMP, PRES, YOSE	
Invite specialists to present to all employee meetings. Send employees to NPS and external training.			
Promote regional ecotourism.		ASIS Sustainable Design Flow Chart. DENA, GRCA, ZION	
	EO 13148 <i>Greening the Government Through Leadership in Environmental Management</i> , April 21, 2000. PW-051 <i>Environmentally Preferable Purchasing Policy</i> . PW-048 <i>Sustainable Design and Construction Practices</i> . Contact the Regional Program Coordinator for each environmental plan.	BLRI EMS.	
Create base-funded support.		WHIS Unilever Plastic Lumber grant.	
	http://www.ofee.gov/ http://www.earthday.net http://www.americarecyclesday.org http://www.unitedsoybean.org http://www.nps.gov/renew http://www.nps.gov/sustain/spop/ Editor, <i>Sustainability News</i> : diane_liggett@nps.gov		
Become an environmental advocate.		BICY, JOTR, PORE, SAMO CHIS goal to become petroleum-free. LAME War On Litter campaign.	

* The product references provided in this document are not intended to endorse one product over another, and represent only a limited selection of available products.

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Pacific West Region's
100+ Best Management Practices



Defining What a Green Park Looks Like



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